SECTION 17212

INDICATING TRANSMITTERS

PART 1--GENERAL

1.01 MAGNETIC FLOW METER AND FLOW INDICATING TRANSMITTER

1. Each meter shall have a metering tube and a non-conductive liner of Teflon, suitable for the liquid being metered. End connections shall be stainless steel flanged for sizes 1/2-inches and greater, ANSI Class 150# with stainless steel grounding rings.

   The housing shall be epoxy coated stainless steel welded at all joints. Bolted coil enclosures shall not be acceptable. Flow tube shall be suitable for a Class I Division 2 area.

2. The field coils of the meter shall be supplied with a precisely adjusted bi-polar direct current. The coils must be located on the outside of the flow tube.

3. There shall be no electronic components on the primary flow head. Coil drive power shall be supplied by an integral or remote converter. Output signal from the primary flow meter element (FE) using ‘DS’ proprietary cable supplied with the meter to the remote signal converters Flow Indictor Transmitter (FIT). Remote FIT shall be dual rated NEMA 4X and NEMA 7 for Class I Division 2 Hazardous Area.

4. The primary flow element shall have a housing rated for:

   a. Weatherproof and rated for Class I Division 2 Hazardous Area.
   b. Electrode material shall be corrosion resistant Hasteloy C4.
   c. Meters sized 3/8-inches and 1/2-inches shall be lined with PFA Teflon.

5. Build-up of foreign substances on the electrodes shall be prevented, while meter is in service, in the following manner: "Hot Tap" removable electrodes shall be provided on sizes 14-inches to 120-inches. High Impedance circuits shall not be acceptable in lieu of hot tap removable electrodes.

6. The instrument shall be manufactured in an ISO 9001 approved facility.

7. When installed in lined or non-metallic piping, the meter shall be provided with corrosion resistant grounding rings. Grounding electrodes shall not be acceptable.

8. Meter calibration shall be performed by a direct volumetric comparison method. A calibration certificate shall accompany each meter. Calibration facility shall be certified to 0.02% accuracy and be traceable to NIST standards.

9. Provide transient surge protection for the incoming 120VAC and DC signals as manufactured by EDCO SLAC series mounted in a stainless steel box.

10. The meter shall be the Krohne Optiflux 4000 Series with IFC 300F transmitter.

1.02 LEVEL INDICATING TRANSMITTER

1. Type:

   a. Capacitance Cell
   b. Electronic Output.
   c. Dual rated NEMA 4X Enclosure and Class I Division 1 Hazardous Area.

2. Operation:

   a. Sense variations in level and produce a standard 4-20 madc current output signal linear with the level.
   b. Sensing Element-differential-capacitance cell
   c. Indicator - integrally mounted.

3. Functional:

   a. Over Pressure Limits: 3600 psig.
   b. Power Supply: 10-55 Vdc
   c. Output: 4-20 madc
   d. Process Connections: 4-inch stainless steel flange

4. Physical:

   a. Body Material: Low copper aluminum.
   b. Wetted Parts: 316 SST
   c. Electronics Housing: NEMA 4X / NEMA 7.
   d. Teflon 0-rings.
   e. Coplanar Stainless Steel Flange

5. Performance:

   a. Accuracy: plus or minus 0.1 percent of span.
   b. Indicator Accuracy: plus or minus 2.0 percent of span.

6. Provide transient surge protection for the incoming DC signals as manufactured by EDCO PC642 series mounted in a NEMA 7 box.

7. Manufacturer:

   a. Endress-Hauser
   b. Rosemount

END OF SECTION